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Patentanmeldung Nr. | Patent application No. | Demande de brevet n°

03077380.8

Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le Président de l'Office européen des brevets
p.o.

R C van Dijk

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Container

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CONTAINER

The invention relates to a container for containing foodstuff, which container comprises:

- a bottom;
- a peripheral wall integral with the bottom and extending upwardly from the bottom and defining a mouth opening;
- a closing foil arranged onto the mouth opening.

Such a container is known from for example EP-A-1 304 028. Such a container is used as an instant feeding trough for animals. The container is filled with the food and covered by the closing foil. For use the cover foil is removed from the container and the container is placed on the ground, such that the animal can directly eat from the container.

A container according to the preamble has the disadvantage that when stacking such containers, the bottom of the container rests on the closing foil of the container below. This enlarges the risk for damage of the closing foil during transport of the containers in a stacked position. Also due to the flexibility of the closing foil the stability of a stack of containers is low.

Another disadvantage of such a container is that moisture can be trapped between two stacked containers. Generally such containers are sterilized after they have been filled with the foodstuff and closed with the foil. As they leave the sterilization device, the containers are stacked. Condensate can be trapped between the bottom of the upper container and the closing foil of the lower container. This

trapped condensate can result in an adverse effect on the container.

Yet another disadvantage is that heat from the sterilization process is trapped between two containers, which slows down the cooling process, deteriorating the food inside the containers.

It is an object of the invention to resolve at least some of the above-mentioned disadvantages.

This object is achieved by a container according to the invention, which is characterized by at least one support element arranged on the bottom at a position corresponding to the edge of the mouth opening, such that in a stacked position of at least two identical containers, the support element of the first container rests on the edge of the mouth opening of the second container.

As the support element is arranged at a position corresponding to the edge of the mouth opening, the support element will relieve the closing foil in stacked position. As the support element rests on the edge of the mouth opening of the container below a more stable stacking is achieved.

In a preferred embodiment the support element comprises a bulge in the bottom. This bulge strengthens the bottom and enables one to use a thinner material for the container, in particular for the bottom. It furthermore enables an easy manufacture of such containers by for example deep drawing of a metal plate.

In another preferred embodiment of a container according to the invention, a ring is arranged on the mouth opening wherein the closing foil is arranged on the ring and in a stacked position of two identical containers, the support element of the first container rests on the ring of the second container.

This ring facilitates the arranging of the cover foil and also provides a support surface on which the support element of a container stacked on top can rest.

In yet another embodiment of the container according to the invention the support element protrudes out of the bottom plane. When such a container is stacked on top of another container a space is available between the bottom of the container and the cover foil of the container below.

Preferably the container comprises at least three support elements evenly distributed over the bottom. When those three support elements protrude out of the bottom plane, small access openings are created to the space between two stacked containers, such that moisture between the two containers can evaporate. Also the containers are cooled down quicker as cooling air can circulate fully around the container and not just along the peripheral wall.

The at least three support elements furthermore provide stability when a separate container is placed on a support surface.

The number of support elements can of course be any desired number and can be positioned, within the scope of the invention, in any desired pattern or randomly.

An alternative embodiment of the container according to the invention, the support element comprises a protruding rim. Such a protruding rim, which can be considered as an infinite number of circularly arranged support elements, is easy in manufacturing and provides a cost effective embodiment.

Yet in another embodiment of the container according to the invention, the support element is arranged inside the produced part of the peripheral wall. When two such containers are stacked on top of each other, the support element will fall inside the peripheral wall and rest on the

edge of the mouth opening. As the support element falls within the peripheral wall, this peripheral wall will prevent that a container can slide off the container below.

The invention further relates to a stack of containers, comprising at least a first and a second container according to the invention, wherein the first container is stacked on top of the second container, and wherein the support element of the first container rests on the edge of the mouth opening of the second container.

These and other features of the invention will be elucidated in conjunction with the accompanying drawings.

Figure 1 shows a bottom perspective view of a first embodiment of a container according to the invention.

Figure 2 shows a cross-sectional view of the embodiment according to figure 1.

Figure 3 shows a stack of containers according to figures 1 and 2.

Figure 4 shows a cross-sectional view of a stack of containers according to a second embodiment of the invention.

Figure 5 shows a cross-sectional view of a stack of containers according to a third embodiment.

Figure 1 shows a first embodiment of the container 1 according to the invention. This container 1 has a bottom 2 and a peripheral wall 3 extending from the bottom 2. In the bottom 2, three bulges 4 are provided, which function as support elements. A number of flutes 17 is arranged between the bulges 4. These flutes 17 provide additional strength to the bottom 2 of the container 1. The flutes 17 may also be helpful with regard to moisture removal and heat transfer.

In figure 2 a cross-sectional view of the container 1 is shown. The peripheral wall 3 defines a mouth opening, which is closed by a closing foil 5. Foodstuff F is contained

in the container 1. The cover foil 5 is provided with a lip 6, which facilitates tearing off the cover foil 5.

In figure 3 a stack of containers 1 is shown. The support elements 4 of each container rests on the edge 7 of the mouth opening of the container 1 below. In this way the weight of the containers is transferred through the peripheral wall 3 of each container 1 and the cover foils 5 of each container 1 are relieved of any substantial load.

As the support elements 4 protrude out of the bottom plane a free circulation of air is possible between the outside of containers 1 and the space 8 between the bottom 2 and the cover foil 5 of adjacent containers.

Figure 4 shows a stack of containers 10 according to a second embodiment of the invention. Each container 10 comprises a bottom 11 and an upwardly extending peripheral wall 12. On top of the peripheral wall 12 a ring 13 is connected to the peripheral wall 12 through a double seam 14. The ring 13 defines a mouth opening which is closed off by a cover foil 15.

The bottom 11 is again provided with three bulges 16. These bulges 16 are arranged inside the produced part of the peripheral wall, which is shown by a dashed line. As a result, the bulges or support elements 16 rest in a stack position of a number of containers 10 on the ring 13 of the container below. Again the load of the containers is transferred through the ring 13 and the peripheral wall 12 to the next container below. This results in the relieve of the cover foil 15.

The bulges or support elements 4, 16 can also be used to orientate the container for printing on the peripheral wall 3 and arranging the cover foil to the edge of the mouth opening.

In figure 5 a third embodiment of a container 20 according to the invention is shown. This embodiment is similar to the embodiment according to figures 1 and 2. The same features have therefore the same reference signs.

The container 20 is distinguished from the container 1 by the support element 21, which protrudes out of the bottom 2 and also out of the wall 3. In this way the support elements 21 rest on the edge 7 of the mouth opening.

CLAIMS

1. Container for containing foodstuff, which container comprises:

- a bottom;

- a peripheral wall integral with the bottom and extending upwardly from the bottom and defining a mouth opening;

- a closing foil arranged onto the mouth opening,

characterized by

- at least one support element arranged on the bottom at a position corresponding to the edge of the mouth opening, such that in a stacked position of at least two identical containers, the support element of the first container rests on the edge of the mouth opening of the second container.

2. Container according to claim 1, wherein the support element comprises a bulge in the bottom.

3. Container according to claim 1 or 2, wherein a ring is arranged on the mouth opening, wherein the closing foil is arranged on the ring and in a stacked position of two identical containers, the support element of the first container rests on the ring of the second container.

4. Container according to any of the preceding claims, wherein the support element protrudes out of the bottom plane.

5. Container according to any of the preceding claims, comprising at least three support elements evenly distributed over the bottom.

6. Container according to any of the claims 1-4, wherein the support element comprises a protruding rim.

7. Container according to any of the preceding claims, wherein the support element is arranged inside the produced part of the peripheral wall.

8. Stack of containers, comprising at least a first and a second container according to any of the preceding claims, wherein the first container is stacked on top of the second container, and wherein the support element of the first container rests on the edge of the mouth opening of the second container.

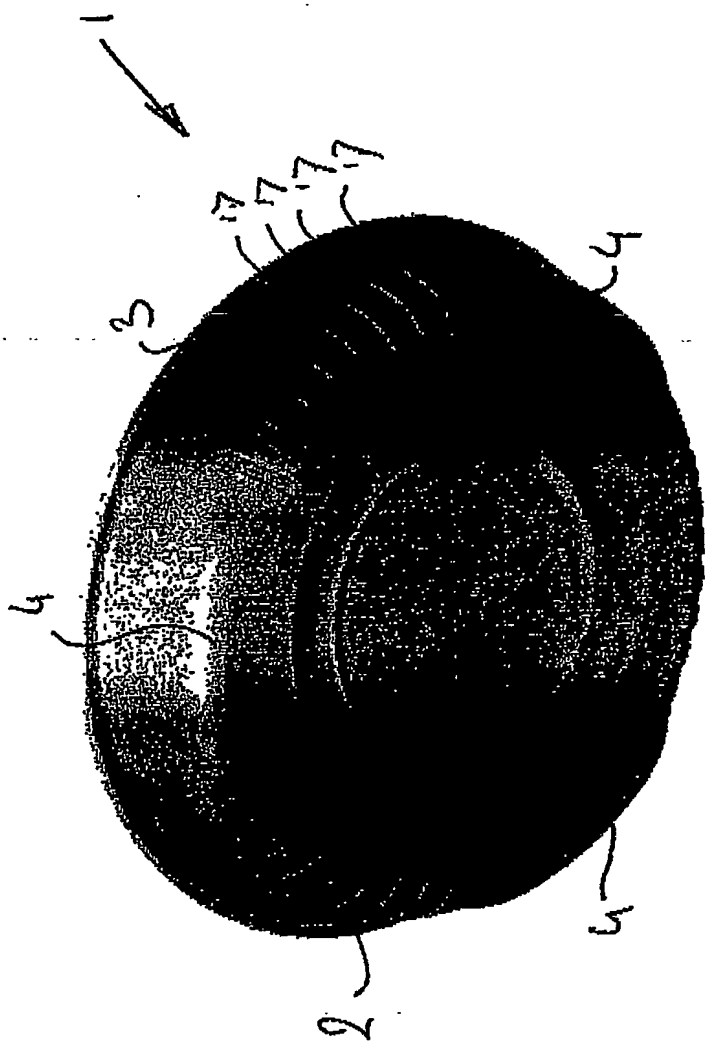
ABSTRACT

The invention relates to a container for containing foodstuff, which container comprises:

- a bottom;
- a peripheral wall integral with the bottom and extending upwardly from the bottom and defining a mouth opening;
- a closing foil arranged onto the mouth opening;
- at least one support element arranged on the bottom at a position corresponding to the edge of the mouth opening, such that in a stacked position of at least two identical containers, the support element of the first container rests on the edge of the mouth opening of the second container.

Furthermore the invention relates to a stack of containers, comprising at least a first and a second container according to any of the preceding claims, wherein the first container is stacked on top of the second container, and wherein the support element of the first container rests on the edge of the mouth opening of the second container.

FIG 1



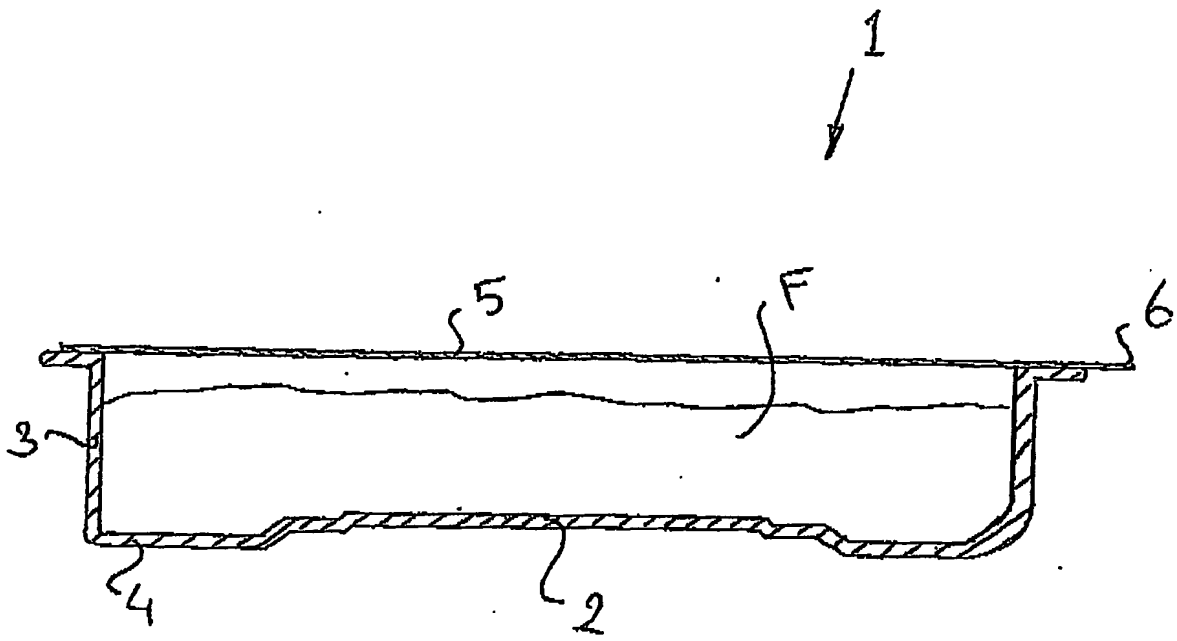


FIG2

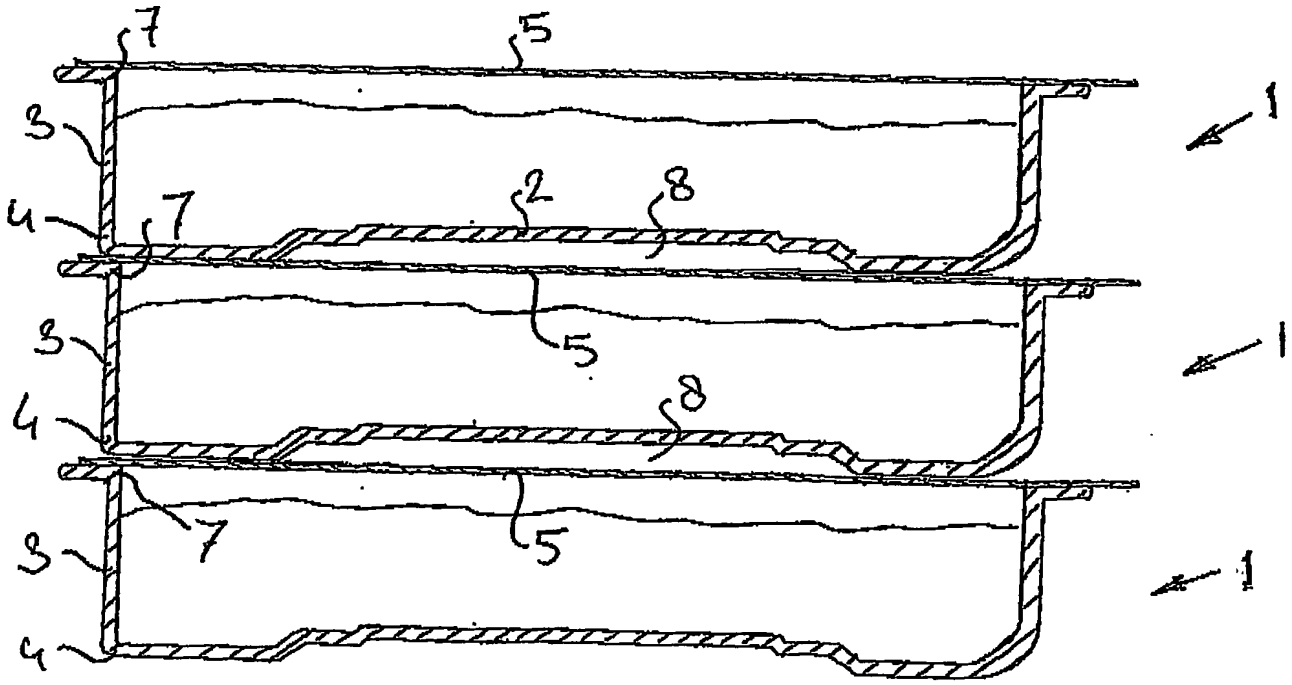


FIG3

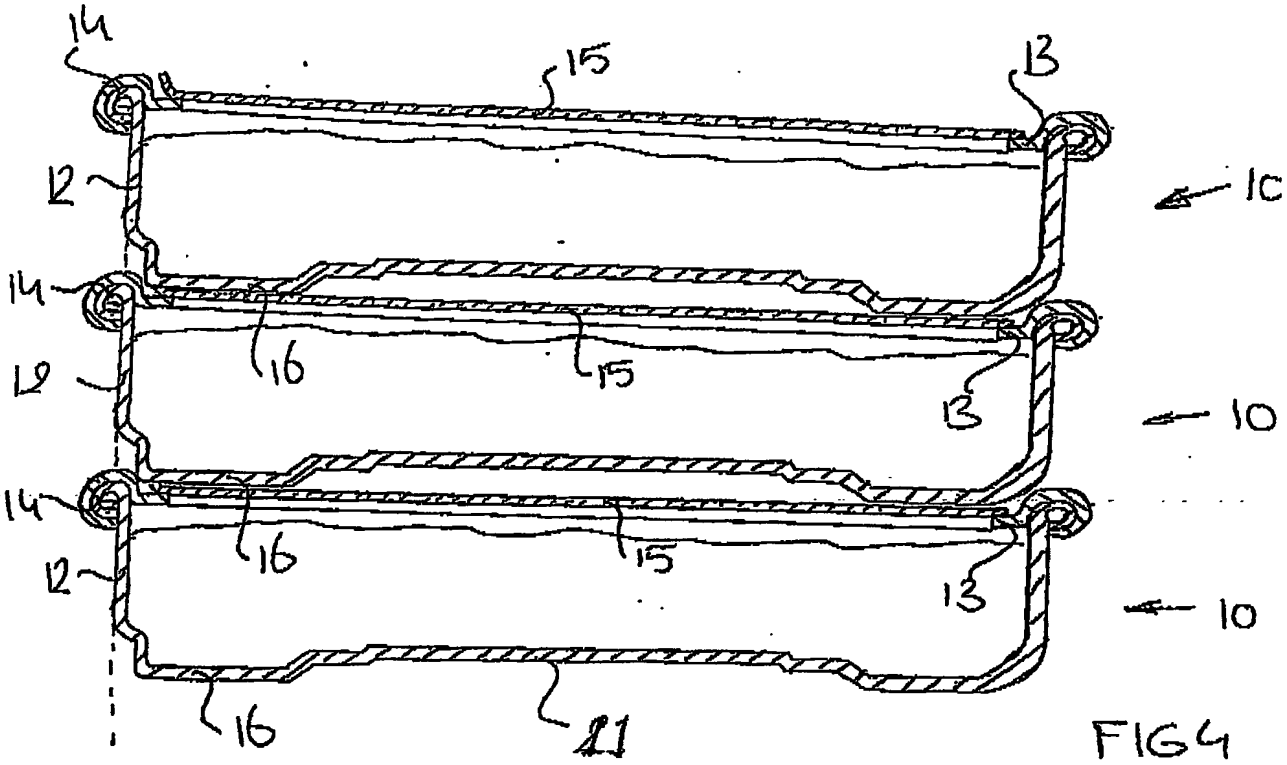


FIG4

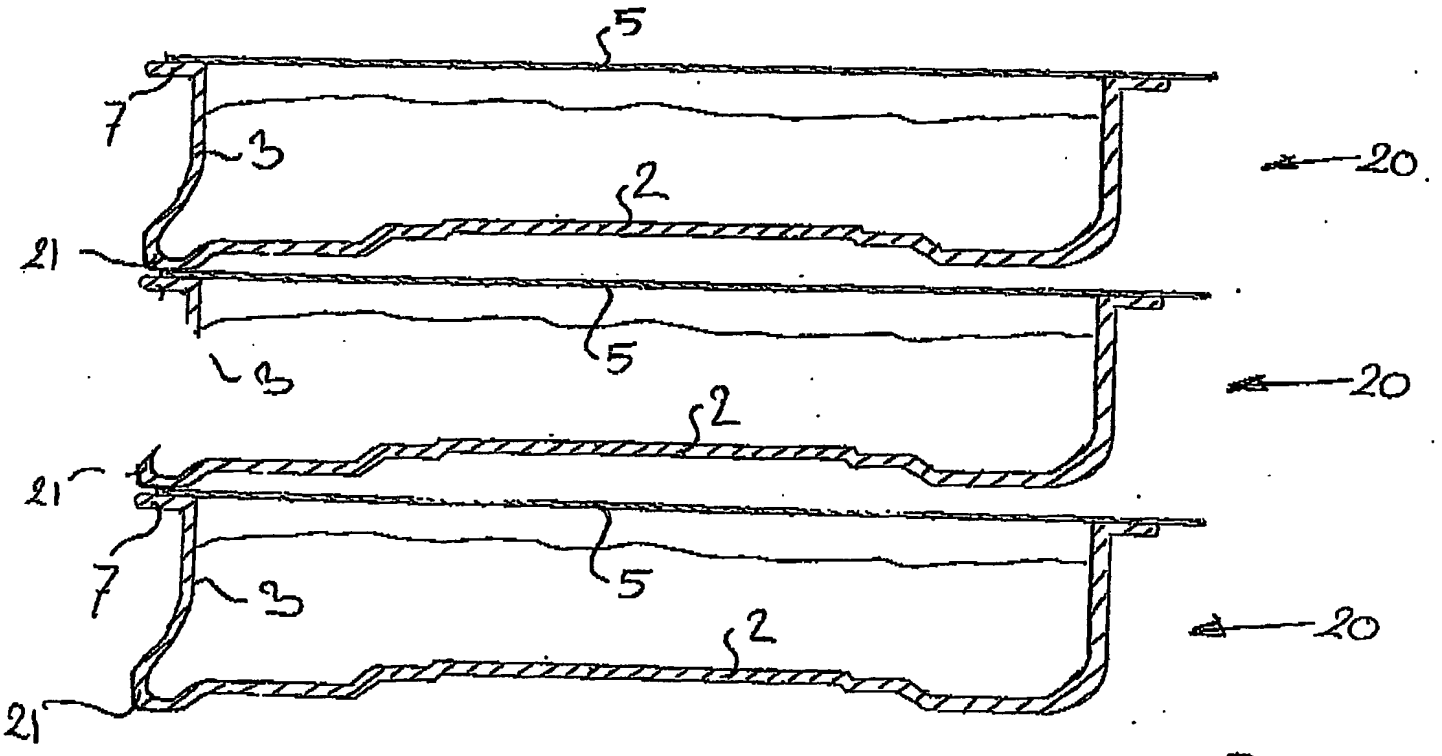


FIG5

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